

the removal of basket 48 from strainer basket assembly 30 without interfering with operation of the strainer. By isolating strainer basket assembly 30 access can be gained to basket 46, to empty basket 46 of strained materials, perform maintenance on chamber 32, or other tasks involving basket assembly 30 without interfering with operation of the entire system of duplex strainer 10.

It should be understood that by rotating handle 104 substantially 90° and thereby rotating three-way ball valves 72, 84, opening 88 will be brought in fluid communication with entrance port 19 simultaneously with opening 90 being brought in fluid communication with entrance port 36, so that the fluid will flow into both strainer basket assemblies, 30, 40 simultaneously to provide a dual straining function. At the same time, opening 74 will communicate with exit port 27 while opening 78 will communicate with exit port 38, providing a continuous flow path for both strainer basket assemblies 30, 40. Similarly, by rotating handle 104 substantially 180° from the position shown FIGS. 3 and 4, three-way ball valves 72, 84 will also be rotated 180° bringing opening 86 in fluid communication with entrance port 19 and opening 76 in fluid communication with exit port 27, isolating strainer basket assembly 40, preventing fluid from flowing therethrough to allow service access of strainer basket assembly 40 without interruption of a straining process.

By providing a duplex strainer in which at least one strainer basket assembly is bolted to the housing and not formed integrally therewith, the manufacture of duplex strainers is simplified. Furthermore, by providing a three-way ball valve as a flow transfer valve, leakage at low pressure is reduced, allowing the inlet of the strainer to be shut off, isolating the pump as well as other equipment, limiting the need of a shut-off valve upstream of the strainer. Furthermore, the use of a three-way ball valve allows field maintenance of the duplex strainer without interfering with a continuous straining function.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the spirit and scope of the invention, it is intended that all matter contained in the above construction as shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

What is claimed is:

1. A duplex strainer for straining a fluid comprising a housing having an inlet port through which material enters the housing and an outlet port through which strained material leaves the housing, a first strainer chamber for straining said fluid having first and second ports in separate fluid communication with the housing, a second strainer chamber for straining said fluid having a third port opposing said first port and a fourth port which opposes said second port in separate fluid communication with said housing, a first three-way ball valve for controlling the flow of fluid between said housing, first port and second port, and a second three-way ball valve for controlling the flow of fluid between said second port and said fourth port and a coupling for

coupling said first three way ball valve to said second three-way ball valve, said coupling causing said first three-way ball valve and said second three-way ball valve to move in unison, causing fluid to flow either entirely through said first strainer chamber, entirely through said second strainer chamber, or through both said first strainer chamber and said second strainer chamber simultaneously.

2. The duplex strainer of claim 1, further comprising a divider disposed within said housing between said first three-way ball valve and said second three-way ball valve forming an upper chamber within said housing and a lower chamber within said housing, said first and third ports communicating solely with said upper chamber and said second and fourth ports communicating only with said lower chamber.

3. The duplex strainer of claim 1, wherein said first strainer chamber is formed unitarily with said housing and said second strainer chamber is detachably mounted to said housing.

4. A duplex strainer for straining a fluid comprising a housing having an inlet port through which material enters the housing and an outlet port through which strained material leaves the housing, a first strainer chamber for straining said fluid having first and second ports in separate fluid communication with the housing, a second strainer chamber for straining said fluid having a third port opposing said first port and a fourth port which opposes said second port in separate fluid communication with said housing, a valve control for controlling the flow of fluid within said housing and between said first port, second port, third port and fourth port, said valve control including a first three-way valve for controlling the flow of fluid between said housing, first port and second port, and a second three-way valve for controlling the flow of fluid between said second port and said fourth port and a coupling for coupling said first three way valve to said second three-way valve, said coupling causing said first three-way valve and said second three-way valve to move in unison, causing fluid to flow either entirely through said first strainer chamber, entirely through said second strainer chamber, or through both said first strainer chamber and said second chamber simultaneously, said coupling includes a first notch formed within said first three-way valve and a second notch formed within said second three-way valve, and a shaft, said shaft including a first flange and a second flange, said first flange being received within said first notch and said second flange being received within said second notch.

5. A duplex strainer for straining a fluid comprising a housing having an inlet port through which material enters the housing and an outlet port through which strained material leaves the housing, a first strainer chamber for straining said fluid having first and second ports in separate fluid communication with the housing, a valve control for controlling the flow of fluid within said housing and between said first port, second port, third port and fourth port, said valve control including a second strainer chamber for straining said fluid having a third port opposing said first port and a fourth port which opposes said second port in separate fluid communication with said housing, a first three-way valve for controlling the flow of fluid between said housing, first port and second port, and a second three-way valve for controlling the flow of fluid between said second port and said fourth port and a coupling for coupling said first three way valve to said second three-way

valve, said coupling causing said first three-way valve and said second three-way valve to move in unison, causing fluid to flow either entirely through said first strainer chamber, entirely through said second strainer chamber, or through both said first strainer chamber and said second chamber simultaneously, said first strainer chamber being formed unitarily with said housing and said second strainer chamber being detachably mounted to said housing, a divider disposed within said housing forming an upper chamber within said housing and lower chamber within said housing, said coupling means including a first notch formed within said first three-way valve and a second notch formed within said second three-way valve, and a shaft, said shaft including a first flange and a second flange, said first flange being received within said first notch and said second flange being received in said second notch, said shaft extending through said divider.

6. A duplex strainer for straining a fluid comprising a housing having an inlet port through which material enters the housing and an outlet port through which strained material leaves the housing, a first strainer chamber for straining said fluid having first and second ports in separate fluid communication with the housing, a second strainer chamber for straining said fluid having a third port opposing said first port and a fourth port which opposes said second port in separate fluid communication with said housing;

a valve control for controlling the flow of fluid within said housing and between said first port, second port, third port and fourth port, said valve control including a first three-way ball valve for controlling the flow of fluid between said housing, first port and second port, and a second three-way ball valve for controlling the flow of fluid between said second port and said fourth port; a divider disposed within said housing between said first three-way ball valve and said second three-way ball valve forming an upper chamber within said housing and a lower chamber within said housing, said first and third ports communicating solely with said upper chamber and said second and fourth ports communicating only with said lower chamber; and a coupling for coupling said first three-way ball valve to said second three-way ball valve, said coupling causing said first three-way ball valve and said second three-way ball valve to move in unison, causing fluid to flow either entirely through said first strainer chamber, entirely through said second strainer chamber, or through both said first strainer chamber and said second strainer chamber; said first strainer chamber being formed unitarily with said housing and said second strainer chamber being detachably mounted to said housing.

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